Title: *Handheld Spherical-Head Vacuum Device and Bowl System for Coffee Chaff Removal*

Inventor: Artur Nugumanov

Date of Disclosure: May 15, 2025

🔍 Background & Problem

During the coffee roasting process, roasted beans shed a papery skin known as **chaff**. This lightweight material clings to the beans or scatters across surfaces, making cleanup difficult. Existing methods — such as blowing, shaking, or using general vacuums — are messy, imprecise, or risk removing the beans themselves.

There is no known handheld consumer tool that offers **precise, non-invasive chaff removal** without disturbing roasted coffee beans, nor one that combines **stirring**, **vacuuming**, and **suction tuning** for the specific physical properties of coffee.

💡 Solution

This disclosure presents a **handheld vacuum device** and **bowl system** optimized for **removing chaff from roasted coffee beans** through selective suction, ergonomic movement, and tailored suction control.

🛠️ Device Description

The invention includes:

1. **A handheld vacuum unit** with:
    - A **spherical or mushroom-shaped intake head**
    - Covered in **perforations approximately 1.5mm to 2.5mm in diameter**
    - Designed to allow **lightweight chaff particles** to be drawn in, while **excluding heavier roasted coffee beans**
2. **Adjustable suction power**, specifically:

- Tuned for the **coffee use case**, where airflow strength is **strong enough to extract chaff**
- But **intentionally limited below the threshold needed to lift or jam roasted coffee beans**
- Prevents clogging or bean loss, while maximizing chaff extraction efficiency

3. **A hemispherical (half-sphere) bowl**, used to:
   - Hold roasted beans securely during cleaning
   - Encourage **natural rolling and settling** of beans during stirring
   - Prevent escape or spillage during use
4. **A usage method** in which:
   - The vacuum device is used in a **circular, spoon-like stirring motion** within the bowl
   - This movement **loosens clinging chaff**, which is then selectively collected by the intake head
   - Roasted beans remain safely in the bowl due to their weight and the suction tuning
5. Optional components:
   - **Internal mesh filters** or **electrostatic dust traps**
   - **Transparent collection chamber** for viewing and emptying chaff
   - **Detachable head** for easy cleaning
   - **Preset or variable suction levels** labeled specifically for coffee bean roast types (e.g. light roast, medium roast)

🔬 Novelty and Use Case

This system is novel in its combination of:

- **Geometry**: Spherical perforated intake with optimal hole size
- **Selective airflow mechanics**: Differentiating chaff from beans
- **Tailored suction power**: Uniquely adjusted to the mass and airflow behavior of coffee beans vs. chaff
- **Manual stirring motion**: Simultaneous agitation and cleaning within the half-sphere bowl

No known device or method replicates this specific set of features or their functional integration.

⚖️ Use Cases

- Home roasting setups
- Small-batch coffee roasters
- Cafés doing on-demand fresh roasts
- Coffee enthusiasts prioritizing clean bean presentation

📌 Prior Art Statement

While bean coolers and general vacuums exist, none include:

- A **spherical or mushroom-shaped perforated vacuum head**
- **Adjustable suction calibrated to selectively extract chaff**
- A **half-sphere containment bowl** for ergonomic use
- And a **usage method involving spoon-like agitation for simultaneous chaff separation and collection**

This document serves as a **prior art disclosure** for the concept described.